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REMARKS

The title has been amended in conformity with the subject matter prosecuted herein.

The specification has been amended to recite that the invention described herein was made with support from the U.S. Government.

Claim 56 has been amended to clarify (a) that the treatment is performed on an artery or vein in a human subject, (b) that administration of the agent results in proteolysis of elastin (*i.e.*, the amorphous central component of the elastic fiber), but need not result in proteolysis of elastin microfibrils, and (c) that the artery or vein treated may either be obstructed or susceptible to obstruction. Claims 57 and 58 have been amended without altering their scope. Claims 59 and 60 have been amended to revise their dependency. Claims 61-68 have been added. Following entry of the amendment, claims 56-68 are presented for examination.

No new matter has been added by virtue of the amendments and new claims. For instance, the amendment of claim 56 is supported by the specification at page 9, lines 1-2 and by original claim 39. Claim 61 is supported by original claim 5. Claim 62 is supported by original claim 1. Claim 63 is supported by the specification at page 9, line 7 and by original claim 10. Claim 64 is supported by the specification at page 16, line 27 to page 17, line 11. Claims 65 and 66 are supported by original claim 34. Claim 67 is supported by the specification at page 10, lines 12-15. Claim 68 is supported by the specification at page 13, lines 22-28.

I. Rejections Under 35 U.S.C. § 102

Claims 56-60, as previously pending, were rejected under 35 U.S.C. § 102(b) as anticipated by Herring, U.S. Patent No. 5,041,091 ("Herring"), Dobrin et al, 1988, Surgery 104(3):568-571 ("Dobrin"), or Anidjar et al., 1990, Circulation 82(3):873-981 ("Anidjar"). The claims have been amended to recite that the artery or vein treated is in a human subject, thereby obviated the rejection.

Herring discloses a method for enzymatically harvesting endothelial cells from a segment of jugular vein that has been removed from a donor. *See, e.g.*, Herring at col. 4, lines 38-39 (teaching that the donor vein is "extracted from the patient"). The explanted donor vein is then stripped of endothelial cells, which are used to inoculate a prosthetic graft. The *ex vivo* method of Herring is fundamentally different from the methods as presently claimed,

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which are directed to treating an artery or vein in a human subject. Moreover, Applicant respectfully points out that Herring does not teach collagenase digestion resulting in enlargement of the luminal diameter of the vein, as suggested by the Examiner. *See* Office Action at 2-3. Rather, Herring teaches the use of an inflatable balloon in order to achieve distension of the vein. *See* Herring at col. 4, lines 53-56. In fact, Herring uses balloon-mediated distension as an alternative to enzymatic treatment, in order to break the cell junctions between the endothelial cells. *See id.* col. 6, lines 1-7.

Dobrin discloses *ex vivo* enzymatic treatment of carotid arteries obtained from donor dogs immediately after the donor animals had been killed in unrelated experiments, and reports that the vessels "dilate aneurysmally and elongate sufficiently to become tortuous" as a result of such treatment. *See* Dobrin at page 568. Dobrin does not teach enzymatic treatment of an artery or vein in a human subject, nor does Dobrin suggest applying such treatment to an artery or vein in a human subject.

Anidjar discloses the use of an elastase to produce experimental aortic aneurysm in rats. Anidjar does not teach elastase treatment of an artery or vein in a human subject, nor does Anidjar suggest applying such treatment to an artery or vein in a human subject. Applicant respectfully submits that the claims as presently amended are patentably distinct from the teachings of Herring, Dobrin, or Anidjar.

II. Rejections Under 35 U.S.C. § 103

Claims 56-60, as previously pending, were rejected under 35 U.S.C. § 103(a) as obvious over Herring, Dobrin, and Anidjar. The claims have been amended to recite the treatment of an artery or vein in a human subject, thereby obviated this rejection. As discussed above, Herring is concerned with an *ex vivo* method for enzymatically stripping endothelial cells from an explanted jugular vein. Dobrin is concerned with *ex vivo* enzymatic treatment of arteries harvested from recently killed donor dogs, and Anidjar is concerned with a rat model for producing experimental aneurysms. Whether taken singly or in combination, these references do not teach or suggest the presently claimed methods for treating an artery or vein in a human subject. Accordingly, the present claimed methods are patentably distinct over the combined teachings of Herring, Dobrin and Anidjar.


In light of the above amendments and remarks, the Applicant respectfully requests that the Examiner reconsider this application with a view towards allowance. The Examiner

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is invited to call the undersigned attorney at (212) 790-6429, if a telephone call could help resolve any remaining issues.

Respectfully submitted,

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